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(FILE 'HOME' ENTERED AT 10:44:40 ON 22 MAR 2002)

FILE 'REGISTRY' ENTERED AT 10:44:47 ON 22 MAR 2002

L1 413 (1<AG<5 AND 50<CU)/MAC  
L2 11 L1 AND (0<MG<.5 OR 0<IN<.5)/MAC

FILE 'HCAPLUS' ENTERED AT 10:45:56 ON 22 MAR 2002

L3 10 L2  
L4 102 ULTRAFINE (1A) WIRE  
L5 83797 (COPPER OR CU) (1A) (ALLOY OR BASE? OR REMAIN OR BALANC? OR REST)  
L6 20 L4 AND L5  
L7 530 L1  
L8 45 L7 AND WIRE?

AN 1993-113024 [14] WPIDS  
DNC C1993-050294  
TI Bending-resistant, high strength conductive **copper alloy**  
- contg. tin , **silver** and **indium**, for wire  
and crimped terminals.  
DC L03 M26  
PA (YAZA) YAZAKI CORP  
CYC 1  
PI JP 05051675 A 19930302 (199314)\* 5p  
JP 2711949 B2 19980210 (199811) 5p  
ADT JP 05051675 A JP 1991-208249 19910820; JP 2711949 B2 JP 1991-208249  
19910820  
FDT JP 2711949 B2 Previous Publ. JP 05051675  
PRAI JP 1991-208249 19910820  
AB JP 05051675 A UPAB: 19930924  
A **Cu** billet comprises (by wt.) Sn: 0.4-1.2%, **Ag**  
:0.1-1.0%, In: 0.1-0.8%, remainder **Cu**.  
USE/ADVANTAGE - Used for making conductive **wire** and  
crimp-style terminals without breaking of **wire**.  
0/0

AN 1991-311362 [43] WPIDS  
DNN N1991-238566 DNC C1991-134879  
TI **Copper alloy** substrate of high temp. superconductive  
layers - contains gallium, **silver**, zinc, **indium**,  
aluminium, manganese, magnesium, bismuth and/or beryllium.  
DC L03 M26 U14 X12  
IN ECKART, G; MULLER, R; ROHR, S  
PA (DEAK) ZENT FESTK AKAD WIS  
CYC 1  
PI DD 290501 A 19910529 (199143)\*  
ADT DD 290501 A DD 1989-335941 19891220  
PRAI DD 1989-335941 19891220  
AB DD 290501 A UPAB: 19930928  
A substrate material for high temp. superconductive layers consists of an  
alloy contg. (by wt.) 80-95% **Cu** and 5-20% total of one or more  
of Ga, **Ag**, Zn, In, Al, Mn, Mg, Bi and Be. Generally, the  
**Cu alloy** contains 5-20% total of Ga and upto 5%  
**Ag**, Zn, In, Al, Mn, Mg, Be or Bi.  
USE/ADVANTAGE - The substrate material is esp. useful for prodn. of  
magnetic screens and for **wire** or strip conductors for  
superconductive magnets, electrical machines and energy transmission  
cables. It is inexpensive, non-magnetic, workable and resistant at the  
superconductive layer heat treatment temp., to oxidn. and thermal cycling.  
It forms a good adherent base for the layers and has little or no  
deleterious affect on superconductive properties caused by chemical  
interaction and differential thermal expansion.  
0/0

AN 1989-210150 [29] WPIDS  
DNN N1989-160153 DNC C1989-093251  
TI Ultrafine **copper alloy wire** for winding -  
contains chromium, at least one of zirconium, **silver**, tin and  
**indium** and **balance copper**.  
DC M26 V02 X12  
PA (FURU) FURUKAWA ELECTRIC CO LTD  
CYC 1  
PI JP 01147032 A 19890608 (198929)\* 3p  
ADT JP 01147032 A JP 1987-304978 19871202  
PRAI JP 1987-304978 19871202  
AB JP 01147032 A UPAB: 19930923  
Ultra-fine **Cu alloy wire** for winding  
comprises, by wt., 0.1 - 1.0% Cr, 0.05% at least one of Zr, **Ag**,  
Sn and In and **balanced Cu**.  
Pref. the **wire** has a dia. of up to 0.05 mm.  
USE - For winding **wires**. The solder dissolving resistance  
is improved by adding the alloying elements.  
1/1

AN 1987-196552 [28] WPIDS  
DNN N1987-147048 DNC C1987-082359  
TI Bonding **wire** for semiconductor device e.g. IC, LSI - comprises  
**copper** contg. sulphur matrix, and **indium**, magnesium,  
beryllium, boron, zirconium, **silver**, silicon, calcium etc..  
DC L03 M26 U11 X12  
PA (NIHA) NIPPON MINING CO; (TATD) TATSUTA DENSEN KK  
CYC 1  
PI JP 62127438 A 19870609 (198728)\* 5p  
JP 03079416 B 19911218 (199203)  
ADT JP 62127438 A JP 1985-265621 19851126; JP 03079416 B JP 1985-265621  
19851126  
PRAI JP 1985-265621 19851126  
AB JP 62127438 A UPAB: 19930922  
The bonding **wire** comprises **Cu** having 99.999 wt.% or  
over purity, contg. 0.0005 wt.% or less S, as a matrix, to which as  
additive elements, less than 0.02 wt.% (A) In and Mg, as a total, and 0.01  
wt.% or less (B) at least one of Be, B, Zr, Y, **Ag**, Si, Ca, and  
rare earth elements, but 0.02 wt.% or less (A)+(B) groups, are added.  
USE - The bonding **wire** is used for connection between  
electrodes on semiconductor devices such as transistors, IC's, and LSI's,  
and outer leads. With the **wire**, heat resistance, fracture  
strength and bonding characteristics can be improved.  
0/0

AN 1986-166322 [26] WPIDS  
DNN N1986-123927 DNC C1986-071420  
TI High purity **copper wire** for bonding semiconductor  
devices - contg. 5-50 ppm zirconium and/or niobium and 10-100 ppm  
palladium, **silver**, **indium** and tin.  
DC L03 M26 P55  
PA (TANF) TANAKA DENSHI KOGYO KK  
CYC 1  
PI JP 61099646 A 19860517 (198626)\* 6p  
ADT JP 61099646 A JP 1984-221483 19841020  
PRAI JP 1984-221483 19841020  
AB JP 61099646 A UPAB: 19930922

**Cu wire** comprises (in wt.%) over 99.99 high purity  
**Cu**, and 5-150 ppm by wt. of one or more of 5-50 ppm Zr and Nb, and  
10-100 ppm by wt. Pd, **Ag**, In, and Sn.

USE/ADVANTAGE - The **wire** is used for bonding tip electrodes  
of semiconductors and outer lead part and has the requisite (a) high  
tensile strength, (b) high strength at high temp., (c) hot  
press-bondability by plastic deformation, and supersonic bondability, (d)  
near true spherical ball shape, and consistency of shape, and (e) high  
bonding strength after bonding.

In an example, **Cu wire** comprising 3ppm Zr by wt.  
and balance 99.999% purity **Cu** was repeatedly **wire**  
drawn and process annealed to 25 micron dia.. It had a tensile strength of  
10.6 gr, elongation of 25% at room temp., and tensile strength 9.9 gr,  
elongation of 18% at high temp., good ball shape, bonding strength 5.5 gr,  
hardness 43 Hv, and produced no fissures on Si-tips.  
0/0

AN 1982-46958E [23] WPIDS  
TI Heat- and corrosion-resistant **copper alloy** used in  
power transmission - contains **silver** and at least one of  
magnesium, aluminium, silicon, manganese, **indium** and rare earth  
metal.  
DC M26  
PA (FURU) FURUKAWA ELECTRIC CO LTD  
CYC 1  
PI JP 57070244 A 19820430 (198223)\* 3p  
PRAI JP 1980-144152 19801015  
AB JP 57070244 A UPAB: 19930915

**Copper alloy** comprises 0.005-1.0% **Ag**, up to  
2.0% in total of one or more elements selected from Mg, Al, Si, Mn, In,  
and rare earth metals and **balance Cu**.

The alloy is useful as a trolley **wire** for a distribution  
**wire** to be operated under a corrosive condition, instead of a  
conventional tough pitch **copper**. The resistance of the  
**copper alloy** to heat and corrosive is improved by addn.  
of the controlled **Ag** amount. The **Ag** effect is further  
enhanced by the coexistence of Mg, Al, Si, etc.

AN 1976-83733X [45] WPIDS  
TI Flexible electric conductor **copper alloy** - contg.  
**copper**, zinc, magnesium and **indium** or **silver**.  
DC L03 M26 X12  
PA (FURU) FURUKAWA ELECTRIC CO LTD  
CYC 1  
PI JP 50077215 A 19750624 (197645)\*  
PRAI JP 1973-127007 19731112  
AB JP 50077215 A UPAB: 19930901  
The **Cu alloy** contg. Zn 0.10-2.0, Mg 0.07-0.2, and In  
or **Ag** 0.10-1.0% is flexible and suitable for telephone  
**wire** and conductors for elec. blankets. In an example, **Cu**  
conductor **alloy** ingot contg. Zn 0.5, Mg 0.2, and In 0.2% was hot  
rolled to 10 mm. dia. at 800-850 degrees, and cold-drawn to 0.2 mm. dia.  
The props. were tensile strength is approx. 88 kg./mm<sup>2</sup> and elec. cond. is  
approx. 58% IACS. The **wire** withstood is approx. 4.5 x 10<sup>4</sup> bend  
cycles.



AN 2001:777909 HCAPLUS  
 DN 135:321539  
 TI Copper alloy **wire** with high resistance to bending for electric  
 cables  
 IN Matsui, Ryo; Ichikawa, Takaaki; Aoyama, Masayoshi; Setani, Osamu  
 PA Hitachi Cable, Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 2001295011	A2	20011026	JP 2000-108017	20000405
AB	A Cu-Ag, Cu-Nb, Cu-Fe, or Cu-Cr alloy <b>wire</b> is drawn to .ltoreq.0.1 mm and then heat treated to obtain a tensile strength of .gtoreq.450 MPa, an elongation of .gtoreq.4%, and an elec. cond. of .gtoreq.50% IACS. The preferred alloys are Cu-(1-15%) Ag, Cu-(5-20%)Nb, Cu-(5-20%)Fe, and Cu-(5-20%)Cr. The heat treatment is conducted by passing the <b>wire</b> inside a tubular furnace heated to .gtoreq.500.degree.. The <b>wire</b> is used for elec. cables.				

AN 2000:486420 HCAPLUS  
 DN 133:93080  
 TI Cu-Ag alloy **wire** rods and their manufacture  
 IN Moriyasu, Takeshi; Tanaka, Akira; Hirota, Toru; Kumano, Tomoyuki; Ohgaki, Toshihisa  
 PA Showa Electric Wire and Cable Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 11 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000199042	A2	20000718	JP 1999-193434	19990707
PRAI	JP 1998-313577	A	19981104		
	JP 1998-313578	A	19981104		

AB The **wire** rods are manufd. by cold working cast rods of Cu-base alloys contg. 2-14 wt.% Ag and balance Cu for diam decrease, while heating them .gtoreq.1 times during working and cold working at area redn. .gtoreq.90%, preferably, .gtoreq.99%, after the final heat treatment. Alternatively, the **wire** rods are manufd. by heating the Cu-base alloys above for pptn., intermediate cold working, heating them for annealing and recovery, and final cold working at area redn. .gtoreq.90%, preferably, .gtoreq.99%. The **wire** rods have fibrous structures contg. Cu-base solid soln. phase, Cu-Ag eutectic phase, and Cu-Ag pptd. phase and tensile strength .gtoreq.1000 MPa. The **wire** rods show high strength, elec. cond., and bending resistance.

AN 1999:681605 HCAPLUS  
 DN 131:302273  
 TI Manufacture of copper alloy thin wire having high strength and  
 fatigue resistance  
 IN Fujiwara, Hidemichi; Yamazaki, Akira; Osada, Katsuki  
 PA Furukawa Electric Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 11293431	A2	19991026	JP 1998-99784	19980413
AB	Cu alloy thin wire having diam. .ltoreq.50 .mu.m is from Cu-(1.0-4.5%)Ag alloy, Cu-(0.2-1.5%)Cr alloy, Cu-(0.1-0.3%)Zr alloy, Cu-(0.2-1.5%)Cr-(0.1-0.3%)Zr alloy or Cu-(0.3-4.0%)Ti alloy by cold drawing at .ltoreq.99.999% draft optionally with intermediate annealing. When intermediate annealing is carried out, the cold draft between intermediate annealing processes is .ltoreq.99.999% and the cold draft after the final annealing is 80-99%.				

AN 1999:565493 HCAPLUS  
 DN 131:217697  
 TI Flexible **wires** and cables having durability and their  
 manufacture  
 IN Miyake, Gyouichi; Takahara, Hidefusa; Rave, Diek  
 PA Yoshinogawa Densen K. K., Japan  
 SO Jpn. Kokai Tokkyo Koho, 10 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11242914	A2	19990907	JP 1998-43443	19980225
AB	<p>             The <b>wires</b> are Cr fiber-reinforced Cu composites comprising Cu matrix and in-situ formed fibrous Cr having max. diam. <math>\leq 2.5 \mu\text{m}</math> and av. diam. <math>\leq 1.0 \mu\text{m}</math>. Optionally, the <b>wires</b> also contain dispersions of Ag or Zr. Cu alloys contg. 1-25 wt.% Cr are swaged if necessary, cold drew, soln. treated, and cold drew again for in-situ formation of fibrous Cr to give <b>wires</b>, from which the flexible <b>wires</b> are manufd. The <b>wires</b> are further age-hardened for dispersion pptn. of Ag and Zr and in-situ formation of fibrous Cr when the Cu alloy contains 0.01-8 wt.% Ag or Zr. Cables contg. the sheathed <b>wires</b> and method for their manuf. are also claimed. The <b>wires</b> and the cables are esp. useful in industrial robot arms.           </p>				

AN 1999:131049 HCAPLUS  
 DN 130:199625  
 TI Copper alloys with high strength and high electric conductivity and  
 manufacture of the alloy **wires**  
 IN Ichikawa, Masateru; Kono, Osamu  
 PA Fujikura Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 3 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 11050215	A2	19990223	JP 1997-210861	19970805
AB	The alloys are prepd. by controlled cooling of cast Cu alloys contg. 0.1-0.45 wt.% O and 0.05-5 wt.% Ag at 3-100.degree./s cooling rate. The <b>wires</b> are manufd. by drawing the alloys. The <b>wires</b> are esp. useful as elec. cables.				

AN 1995:275749 HCAPLUS  
DN 122:139981  
TI Manufacture of copper-silver alloys with high strength and high electric conductivity  
IN Naoe, Kunihiro; Takayama, Teruyuki; Suzuki, Kazumoto  
PA Fujikura Kk, Japan  
SO Jpn. Kokai Tokkyo Koho, 4 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 06287726	A2	19941011	JP 1993-74788	19930331
AB	The Cu alloys are manufd. by hot working of Cu alloy ingots contg. 1-10% Ag and balance Cu at 570-680.degree., and cold working. During the cold working process (e.g., <b>wire</b> drawing), the Cu alloys are subject to heat treatment at 400-550.degree. in vacuum or inert-gas atm. for 0.5-40 h. The alloys have high strength and improved elec. cond.				

AN 1994:287714 HCAPLUS  
 DN 120:287714  
 TI Multifilamentary niobium-titanium superconductive **wire** with high  
 stability, strength, and processibility  
 IN Wada, Katsunori  
 PA Furukawa Electric Co Ltd, Japan  
 SO Jpn. Kokai Tokkyo Koho, 6 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 06005130	A2	19940114	JP 1992-184419	19920618
AB	In the title superconductive <b>wire</b> useful for superconductor magnets, a part or the whole of a conductive metal matrix, in which a large no. of NbTi filaments are inserted, is a Cu-(0.1-5) wt.% Ag alloy. The Cu-Ag alloy may be put only in the periphery of the NbTi filaments. The superconductive <b>wire</b> may consist of a large no. of the NbTi filaments and the Cu-Ag alloy buried in a Cu-Ni alloy matrix.				

AN. 1973:482656 HCAPLUS  
DN 79:82656  
TI Silver-containing copper **wires** with good tensile strength  
IN Chiba, Hideo  
PA Fujikura Cable Works, Ltd.  
SO Japan. Kokai, 3 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 48044798	A2	19730627	JP 1971-33493	19710517
	JP 51034371	B4	19760925		

AB A 2.0-2.8:97.2-98 Ag-Cu alloy is cold drawn at least twice to 80-90% redn. in cross sectional area and annealed after each drawing. The product has good mech. strength and is useful in submarine cables. Thus, an ingot of 2.5:97.5 Ag-Cu was rolled to a 19-mm rod, heated at 680-770.degree., drawn to 8-mm-diam., annealed 3 hr at 360-80.degree., drawn to 3.2-mm diam., annealed 3 hr at 330.degree., and drawn to 0.65-mm diam. to give a **wire** with tensile strength 95.0 kg/mm2 and cond. 81.6%, compared with 75.0 and 83.4, resp., for a similarly drawn **wire** without annealing.



AN 2000:258837 HCAPLUS  
 DN 132:268491  
 TI **Copper alloy wires** having high conductivity  
 and flexibility and their manufacture  
 IN Takahara, Hidefusa; Suzuki, Teruo; Matsuyama, Hiroaki; Kobayashi, Shigeru  
 PA Mitsui Mining and Smelting Co., Ltd., Japan; Yoshinogawa Densen K. K.  
 SO Jpn. Kokai Tokkyo Koho, 6 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000113731	A2	20000421	JP 1998-285191	19981007
AB	In manuf. of Cu matrix composite contg. in situ-formed Cr reinforcement fiber, Ni <b>plating</b> is formed on the <b>wire</b> matrix and heat treated for .ltoreq.30 min at 900-980.degree. in H atm. or in vacuum, in the middle of the manufg. process. <b>Wires</b> having Cu -Ni <b>alloy</b> surface layers, formed by diffusion of Ni and Cu, are also claimed. The <b>wires</b> are esp. useful as robot cables. <b>Wires</b> having excellent solderability and Cu color tone are manufd.				

AN 1992:617938 HCAPLUS  
 DN 117:217938  
 TI **Copper alloy** lead frames for semiconductor devices  
 IN Takemura, Masatoshi; Matsui, Toru; Abe, Hajime; Kato, Hiroshi  
 PA Hitachi Cable, Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 4 pp.  
 CODEN: JKXXAF

DT Patent  
 LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 04165055	A2	19920610	JP 1990-291449	19901029
AB	<p>The lead frames for direct bonding to Cu, Au, or Al lead <b>wire</b> without <b>plating</b> are prepd. by cold rolling at .gtoreq.80% a <b>Cu alloy</b> contg. 0.01-0.2% Zr and .ltoreq.10 ppm O. The <b>Cu alloy</b> may also contain 0.01-1.0 wt.% Sn, Fe, P, Cr, Ni, Co, Zn, Si, Mg, Ti, Te, and Ag. Thus, a lead frame of Cu-0.1% Zr had tensile strength 52.0 kg/mm2, elongation 8%, and good bondability.</p>				

AN 1992:617938 HCAPLUS  
DN 117:217938  
TI **Copper alloy** lead frames for semiconductor devices  
IN Takemura, Masatoshi; Matsui, Toru; Abe, Hajime; Kato, Hiroshi  
PA Hitachi Cable, Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 4 pp.  
CODEN: JKXXAF

DT Patent  
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 04165055	A2	19920610	JP 1990-291449	19901029
AB	The lead frames for direct bonding to Cu, Au, or Al lead wire without <b>plating</b> are prepd. by cold rolling at .gtoreq.80% a <b>Cu alloy</b> contg. 0.01-0.2% Zr and .ltoreq.10 ppm O. The <b>Cu alloy</b> may also contain 0.01-1.0 wt.% Sn, Fe, P, Cr, Ni, Co, Zn, Si, Mg, Ti, Te, and Ag. Thus, a lead frame of Cu-0.1% Zr had tensile strength 52.0 kg/mm <sup>2</sup> , elongation 8%, and good bondability.				

AN 2001:388976 HCAPLUS  
 DN 134:374827  
 TI Ultrafine highly pure **copper alloy** wire and  
 manufacture of the wire for electric wire  
 IN Matsui, Hakaru; Ichikawa, Takaaki; Tamura, Koichi; Aoyama, Masayoshi;  
 Setani, Osamu; Okada, Ryohei  
 PA Hitachi Cable, Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 8 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 2001148206	A2	20010529	JP 1999-330012	19991119
AB	The wire is made of an <b>alloy</b> of <b>Cu</b> contg. .ltoreq.1 ppm inevitable impurities as the matrix and 0.05-0.9 wt.% Sn, In, Ag, Sb, Mg, Al, and/or B, which is drawn to .ltoreq.0.08 mm final diam. and annealed. Alternatively, the wire is made of the above wire as a core, which is plated with Sn, Ag, Ni, Sn-Pb solder, or Pb-free Cu-Sn-Bi- or Cu-Sn-Ag-based solder. A carbon-based crucible for melting and a carbon-based mold for casting are used in the manuf. of the wire for redn. of the amts. of impurities. An elec. wire made of twisted above wires are also claimed, which is suitable for electronic devices.				

AN 2000:393156 HCAPLUS  
 DN 133:33346  
 TI **Copper-zirconium alloy** wire and its manufacture  
 IN Matsui, Hakaru; Aoyama, Masayoshi; Ichikawa, Takaaki; Tamura, Koichi;  
 Sekida, Katsuo; Konishi, Kenji  
 PA Hitachi Cable, Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 4 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 2000160311	A2	20000613	JP 1998-334124	19981125
AB	The title <b>Cu alloy</b> wire contains 0.01-0.20 wt.% Zr and has tensile strength .gtoreq.40 kgf/mm <sup>2</sup> , elongation .gtoreq.5%, elec. cond. .gtoreq.80% IACS, and wire diam. 0.02-0.10 mm. The wire is manufd. by the following steps: (1) heating a cast <b>Cu alloy</b> contg. 0.01-0.50 wt.% Zr at .gtoreq.950.degree. for .gtoreq.30 min for soln. treatment, (2) drawing and twisting the resulting <b>ultrafine wire</b> , and (3) aging the twisted wire by elec. heating at 10-20 V for 0.3-4.0 s for pptn. of Cu-Zr compds. Adhesion between the wires under the aging process can be prevented.				

AN 1997:783949 HCAPLUS  
DN 128:38193  
TI Manufacture of **copper (alloy)** ultra-fine wires  
IN Ichikawa, Masamitsu; Ajimura, Shoji  
PA Fujikura Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 3 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 09314219	A2	19971209	JP 1996-135303	19960529
AB	The title <b>Cu (alloy)</b> wires are manufd. by cooling <b>Cu (alloy)</b> wires with diam. .ltoreq.0.2 mm at -196-0.degree. and wire drawing. The manufg. process prevents <b>Cu</b> ( <b>alloy</b> ) wires from cracking and deformation.				

AN 1991:169433 HCAPLUS  
 DN 114:169433  
 TI Coated **copper alloy** for ultra-fine wire  
 IN Kurosaka, Akito; Tominaga, Haruo; Tomomatsu, Kazuhiko; Aoyanagi, Mamoru  
 PA Fujikura Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 4 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 02270212	A2	19901105	JP 1989-89926	19890410
	JP 06044413	B4	19940608		

AB The wire core of the **Cu alloy** contg. 0.003-0.012% Zr  
 and .ltoreq.10 ppm O is coated with the **Cu alloy**  
 contg. 0.05-0.3% Ag and .ltoreq.10 ppm O for a coating/core  
 cross-sectional area ratio of 40-60% for high rupturing strength and  
 elongation for use in magnetic heads.

AN 1991:169432 HCAPLUS  
 DN 114:169432  
 TI Coated **copper alloy** for ultra-fine wire  
 IN Kurosaka, Akito; Tominaga, Haruo; Tomomatsu, Kazuhiko; Aoyanagi, Mamoru  
 PA Fujikura Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 4 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 02267811	A2	19901101	JP 1989-89925	19890410
	JP 06044412	B4	19940608		
AB	The wire core from the <b>Cu alloy</b> contg. 0.05-0.3% Ag, 0.003-0.01% Zr, and .ltoreq.10 ppm O is coated with .gtoreq.99.99% Cu for the coating/core cross-sectional area ratio of .ltoreq.40% for rupturing resistance for use in magnetic heads.				



AN 1990:29159 HCAPLUS  
DN 112:29159  
TI **Copper alloy conductor for ultrafine wires**  
IN Doi, Seiichi; Okuno, Michio; Kaneko, Hideo  
PA Furukawa Electric Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 3 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 01147032	A2	19890608	JP 1987-304978	19871202
AB	The title conductor comprises 0.1-1.0 wt.% Cr; 0.05-0.5 wt.% Zr, Ag, Sn, and/or In; and <b>balance Cu</b> . The alloy was rolled, coated with polyurethane, and drawn to give elec. conductive wire with excellent solder-wettability.				